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(71) Applicant and

(72) Inventor: **PATRIKAKIS, Pano Yiotis** [CA/CA]; 6 Torrens Ave, Toronto, Ontario M4K 2H8 (CA).

(74) Agent: **DENNISON ASSOCIATES**; 133 Richmond Street West, Suite 301, Toronto, Ontario M5H 2L7 (CA).

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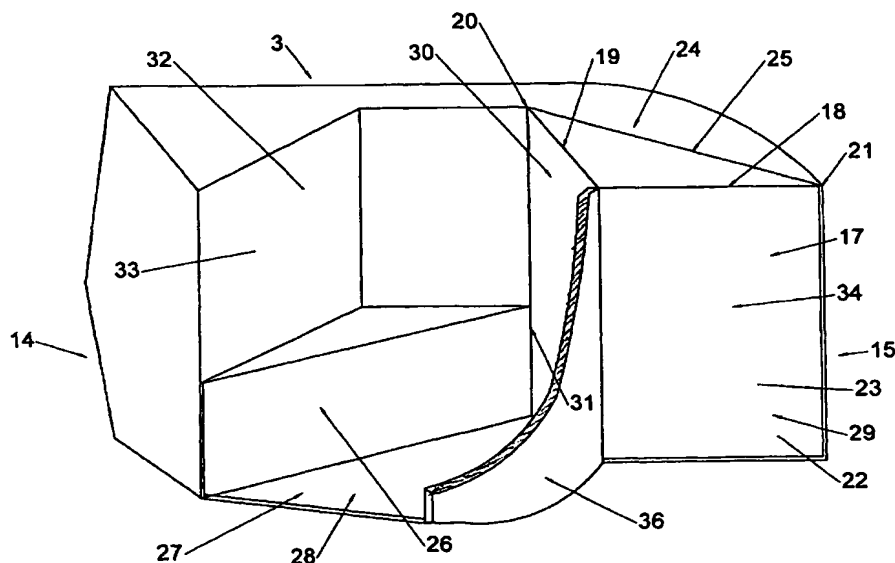
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(54) Title: **VEHICLE MIRROR SYSTEM**



(57) Abstract: A mirror system for a vehicle having two sections; said first section (15) of the mirror housing adapted to contain one or more substantially right angle triangular prisms (17) so that one (23) of the two sides of equal length of said prism (17) is positioned in an opening facing the interior of the vehicle to provide a viewing surface; the second one (30) of the sides of equal length is facing to the exterior of the vehicle; said second section (15) of the mirror housing sized and shaped to contain operative optical elements comprising one or more reflective means (26, 33) mounted at an angle to the second one (30) of the sides of equal length of the prism(s) (17) so that when the driver looks through the viewing surface of the prism he can see objects to the side and rear of the vehicle.

# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/CA 03/01877

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 B60R1/08 B60R1/10

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 B60R

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	FR 2 240 618 A (MAURIN JEAN FRANCOIS) 7 March 1975 (1975-03-07)	1,6-8, 10,14
Y	page 1, line 1 - page 3, column 17; figures	2-5,12, 13
Y	----- US 6 062 699 A (O'DEA JOSEPH C) 16 May 2000 (2000-05-16) cited in the application column 3, line 44 - column 4, line 51; figures 1,2	2-5,13
Y	----- US 5 500 766 A (STONECYPHER BOB) 19 March 1996 (1996-03-19) column 4, line 17 - line 33; figures 5,7 -----	5,12

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

### \* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- "&" document member of the same patent family

Date of the actual completion of the international search

10 March 2004

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Name and mailing address of the ISA  
European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

David, P

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/CA 03/01877

### Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

### Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-8, 10-14

Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest.

☐ No protest accompanied the payment of additional search fees.

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-8, 10-14

FR 2 240 618 A (D1 in the following) discloses the features of independent claim 1 and these of dependent claims 6-8, 10, 14 (see annex).

The additional features of dependent claim 2 are not disclosed by D1 and therefore can be seen to make the following contribution over this prior art (Special Technical Features (STF), (Rule 13.2 PCT)): a first flat mirror is positioned in the second section of the mirror housing in a manner to permit the driver to look through a first section of the viewing surface of the prism and see if another vehicle is in the blind spot area along the side of the vehicle.

From these STF the objective problem to be solved by the 1st invention can be construed as how to see if another vehicle is in the blind spot area along the side of the vehicle.

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2. claim: 9

D1 discloses (see above) a mirror system according to claim 6 wherein the angle of the second flat mirror can be adjusted (see page 2, lines 18-20) from which the subject matter of claim 9 differs in that (Special Technical Features (STF), (Rule 13.2 PCT)): the adjustment is about 1° to 5° degrees.

From these STF the objective problem to be solved by the 2nd invention can be construed as: how to optimize the adjustment range of the second flat mirror.

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3. claims: 15, 16

The additional features of dependent claim 15 are not disclosed by D1 and therefore can be seen to make the following contribution over this prior art (Special Technical Features (STF), (Rule 13.2 PCT)): means are provided for said section of the mirror housing so that the operative optical elements are protected from the elements and permit the driver to see objects to the side and rear of the vehicle.

From these STF the objective problem to be solved by the 3rd invention can be construed as: how to protect the operative optical elements from the elements.

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4. claims: 17, 18

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

The additional features of dependent claim 17 are not disclosed by D1 and therefore can be seen to make the following contribution over this prior art (Special Technical Features (STF), (Rule 13.2 PCT)): the system further comprises a passenger's side viewing device located in a second mirror housing mounted on the vehicle, said second mirror housing sized and shaped to contain operative optical elements, said operative optical elements comprising two different reflective means mounted in the mirror housing at an angle so that the driver can see objects to the passenger's side and rear of the vehicle. From these STF the objective problem to be solved by the 4th invention can be construed as: how to monitor the passenger side of the vehicle.

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## 5. claim: 19

The additional features of dependent claim 19 are not disclosed by D1 and therefore can be seen to make the following contribution over this prior art (Special Technical Features (STF), (Rule 13.2 PCT)): the driver side viewing device is mounted in the driver side door frame. From these STF the objective problem to be solved by the 5th invention can be construed as: how to mount the mirror system on the vehicle.

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## 6. claims: 20, 21

The additional features of dependent claim 20 are not disclosed by D1 and therefore can be seen to make the following contribution over this prior art (Special Technical Features (STF), (Rule 13.2 PCT)): a diverging lens is placed between the second flat mirror and the viewing area. From these STF the objective problem to be solved by the 6th invention can be construed as: how to see if another vehicle is in the blind spot area along the side of the vehicle.

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## 7. claims: 22-28

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

D1 discloses (see page 1, line 1 to page 3, line 17, fig.) a vehicle side view mirror mounted in a mirror housing T adapted to be attached to the side of a vehicle wherein said mirror housing has a rearwardly open box configuration with a first end adapted for attachment to the vehicle, a remote end and top, bottom and front walls, a vehicle side view mirror P is mounted in the opening of the mirror housing T from which the subject matter of claim 22 differs in that it includes a blind spot mirror under the form of a right angle prism mounted adjacent the remote end of the mirror housing in a manner to permit adjustment of the prism to accommodate drivers of different sizes (Special Technical Features (STF), (Rule 13.2 PCT)).

D1 discloses also (see page 1, line 1 to page 3, line 17, fig.) a vehicle side mirror mounted in a housing adapted T to be attached to the side of a vehicle said housing having a rearwardly open box configuration with a first end adapted for attachment to the vehicle, a remote end, top, bottom and front walls wherein the vehicle side mirror P is mounted in the opening of said housing T, from which the subject matter of claim 23 differs in that it includes a retractable blind spot mirror comprising a right angle prism pivotally mounted adjacent the remote end of said housing wherein said prism is adapted to rotate from an open position to a closed position (Special Technical Features (STF), (Rule 13.2 PCT)).

From these STF the objective problem to be solved by the 7th invention can be construed as how to see if another vehicle is in the blind spot area along the side of the vehicle.

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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/CA 03/01877

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
FR 2240618	A	07-03-1975	FR	2240618 A5	07-03-1975
US 6062699	A	16-05-2000	WO	0023827 A1	27-04-2000
US 5500766	A	19-03-1996	NONE		